Calculating Flow Through a Pipe – Answers

Problem 1

Q = A X V

Q = A X 2.1 ft/s

Q = (.785 X D' X D') X 2.1 ft/s *Remember it's D'

Q = (.785 X .333 ft X .333 ft) X 2.1 ft/s *4/12 = .333

Q = .087 ft^2 X 2.1 ft/s

Q = .1827 ft^3/sec

Q = .1827 ft^3/sec X 448.8 gpm

Q = 81.99 gpm or 82 gpm

Problem 2

Q = A x V

Q = (.785 x D' x D') x V

Q = (.785 x (8/12) x (8/12)) x V

Q = (.785 X .66 ft X .66 ft) x 2.5 ft/s

Q = .34 ft^2 X 2.5 ft/s

Q = .85 ft^3/sec